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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/972,942	10/10/2001	Nobuyuki Suda	Q65006	4815

7590 10/21/2005

SUGHRUE, MION, ZINN, MACPEAK & SEAS
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037

EXAMINER	
EASHOO, MARK	

ART UNIT	PAPER NUMBER
1732	

DATE MAILED: 10/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/972,942	SUDA, NOBUYUKI	
	Examiner	Art Unit	
	Mark Eashoo, Ph.D.	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 August 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) *4-6* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

This application contains claims 4-6 drawn to an invention nonelected without traverse in the papers filed 17-SEP-2003. Accordingly, claims 4-6 remain withdrawn from consideration.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vinson et al. (US Pat. 5,374,324) in view of Bourgois (US Pat. 4,840,214).

Regarding claim 1: Vinson et al. teaches the basic claimed process of coating a belt cord with rubber, comprising the steps of: aligning a plurality of belt cords in parallel to each other (Figs. 1-5, especially Figs. 3 and 4); steel filaments (3:1-15); and coating the plurality of belt cords with an uncured rubber while the cord move in an axial direction (3:16-28). The instant limitation of the cord units "at a predetermined pitch in the same plane" is inherently met by Vinson et al. since the cords (element 44, Fig. 3-4) are aligned in a parallel manner at a pitch relative to each other. The term "predetermined pitch" is extremely broad and is readable upon any pitch because the orientation of the cords are inherently determined to some extent before processing.

Although not explicitly taught by Vinson et al., the final alignment/arrangement of the cords is accomplished immediately before the application of an uncured coating around the cord peripheries by a narrow passageway/inserter in the extrusion head/die (see Fig. 3 below). The final alignment/arrangement of the cords is evidenced by the linear spatial separation of the cords as shown in Fig. 4. For further clarification that the pitch is "predetermined", the Examiner has added a Fig. X, which shows that the pitch is accomplished by "holes". Alternatively, the breadth of the limitation "immediately after" is also able to be interpreted as "the following step/process without any steps between arrangement and coating" which is inherently met by Vinson et al.

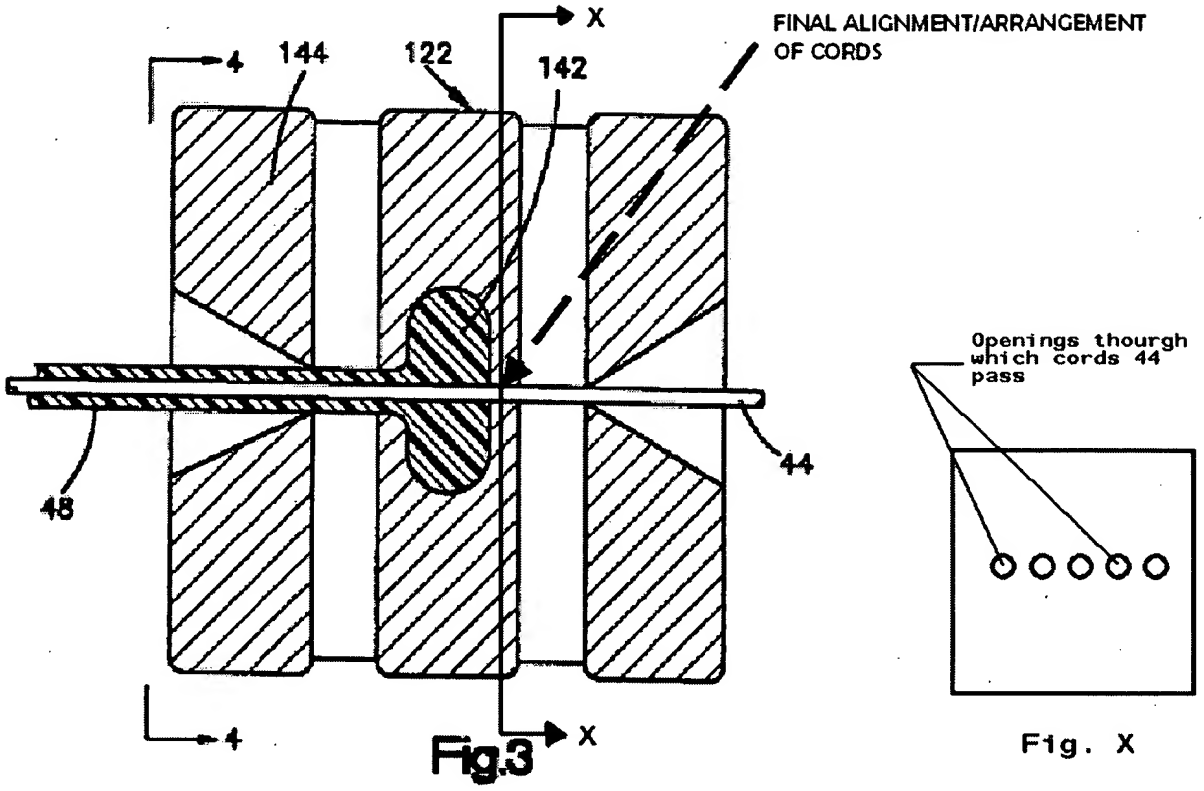

Fig.3

Fig. X

Vinson et al. does not teach a belt cord made of steel filaments wherein a plurality of filaments are arranged in parallel and in contact with each other. However, Bourgois teaches a reinforcing strip or belt cord made of steel filaments wherein a plurality of filaments are arranged in parallel and in contact with each other (Figs. 4-5, 4:10-15, and 4:43-65). Vinson et al. and Bourgois are combinable because they are from the same field of endeavor, namely, reinforcement materials for tires. At the time of invention a person having ordinary skill in the art would have found it obvious to have used a reinforcing strip or belt cord wherein a plurality of steel filaments are arranged in parallel and in contact with each other, as taught by Bourgois, in the process of Vinson et al., and would have been motivated to do so because Bourgois suggests that such parallel cord structure provides a desired and significantly higher bending stiffness (1:5-20). It is submitted that a person of ordinary skill in the art would readily understand that because Fig. 3 does not show resin flowing out of the point at which where the cords are introduced to the cavity it would intrinsically require relatively tight fitting holes through which the cords would pass (such structure is presented in the above rejection as Fig. X) and would have found it obvious to adapt the relatively tight fitting holes through which the cords would pass to the shape of the plurality of filaments taught by Bourgois (eg. oblong/oval shaped).

The area of the structure (element 122) where the final alignment/arrangement of the cords takes place acts as the instantly claimed "inserter" since the cords are passed thorough this structure or passageways and arranged in line as set forth above.

Furthermore, the structural limitation of an inserter being "fixedly secured" within the extrusion head has been considered and has been given the appropriate patentable weight. To be entitle to weight in method claims, recited structural limitations must affect the method in a manipulative sense and not amount to mere claiming of a use of a particular structure. Ex parte Pfeiffer 135 USPQ 31 (BdPatApp&Int) 1961. In this instance, the inserter being fixedly secured does not manipulatively affect the process in way manner other than that taught by Vinson et al.

Regarding claim 2: Vinson et al. does not teach a filament diameter in the range of 0.18 – 0.35 mm. However, Bourgois teaches a filament diameter of 0.25 mm (4:50-55). At the time of invention a person having ordinary skill in the art would have found it obvious to have used a filament diameter of 0.25 mm, as taught by Bourgois, in the process of Vinson et al., and would have been motivated to do so since size is among general criteria in which selection of cord material is commonly made in order to obtain desired strength characteristics.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vinson et al. (US Pat. 5,374,324) in view of Bourgois (US Pat. 4,840,214) as applied to claim 1 above, and further in view of Edwards (US Pat. 4,126,720).

Vinson et al. teaches the basic claimed process as set forth above regarding claim 1.

Regarding claim 2: Alternatively, Vinson et al. does not teach a filament diameter in the range of 0.18 – 0.35 mm. However, Edwards teaches a filament diameter on the order of 0.007 inches or about 0.18 mm (5:45-50). Vinson et al. and Edwards are combinable because they are considered with a similar technical difficulty, namely, reinforcement materials for tires. At the time of invention a person having ordinary skill in the art would have found it obvious to have used a filament diameter on the order of 0.007 inches or about 0.18 mm, as taught by Edwards, in the process of Vinson et al., and would have been motivated to do so since Edwards suggests that size is among the criteria in which selection of cord material is made in order to obtain desired strength characteristics (1:5-30).

Regarding claim 3: Vinson et al. does not teach a gauge of the uncured reinforced rubber sheet in the range of 0.5 – 1.2 mm. However, Edwards teaches teach a gauge of the uncured reinforced rubber sheet in the range of 0.03 – 0.15 inches or about 0.76 – 3.8 mm (5:45-50). Vinson et al. and Edwards are combinable because they are considered with a similar technical difficulty, namely, reinforcement materials for tires. At the time of invention a person having ordinary skill in the art would have found it obvious to have used a gauge of the uncured reinforced rubber sheet in the range of 0.03 – 0.15 inches, as taught by Edwards, in the process of Vinson et al., and would have been motivated to do so since Edwards suggests such thickness is appropriate for forming reinforcing plies in radial tires.

Response to Arguments

Applicant's arguments filed 09-AUG-2005 have been fully considered but they are not persuasive. Applicant's arguments have been substantially responded to in the above rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Eashoo, Ph.D. whose telephone number is (571) 272-1197. The examiner can normally be reached on 7am-3pm EST, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark Eashoo, Ph.D.
Primary Examiner
Art Unit 1732

October 18, 2005
me